FILE COPY

STATE OF UTAH DIVISION OF WATER QUALITY DEPARTMENT OF ENVIRONMENTAL QUALITY SALT LAKE CITY, UTAH

AUTHORIZATION TO DISCHARGE UNDER THE

<u>UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM</u> (<u>UPDES</u>)

GENERAL PERMIT FOR COAL MINING

In compliance with provisions of the Utah Water Quality Act, Title 19, Chapter 5, Utah Code Annotated ("UCA") 1953, as amended (the "Act"), the coal company identified in the application (Notice of Intent) is authorized to discharge to waters of the State as identified in the application in accordance with discharge point (s), effluent limitations, monitoring requirements and other conditions as set forth herein.

This permit shall become effective on September 1, 2013.

This permit and the authorization to discharge shall expire at midnight, August 31, 2018

Signed this 744day of August, 2013

John J. Whitehead Acting Director

TABLE OF CONTENTS

Cove		Issuance and Expiration Dates	
I.		LUENT LIMITATIONS AND MONITORING REQUIREMENTS	3
	A.	Criteria for Inclusion in the General Permit for Coal Mining	
	B.	Notice of Intent for a General Permit for Coal Mining	
	C.	Description of Discharge Point(s)	4
	D.	Narrative Standard.	
	E.	Specific Limitations and Self-Monitoring Requirements	4
	F.	Storm Water Requirements.	6
	- G.	EPCRA Section 313 Requirements.	12
II.	MOì	NITORING, RECORDING AND REPORTING REQUIREMENTS	
	A.	Representative Sampling	
	В.	Monitoring Procedures	15
	C.	Penalties for Tampering	
	D.	Reporting of Monitoring Results	15
	E.	Compliance Schedules	15
	F.	Additional Monitoring by the Permittee	15
	G.	Records Contents	15
	H.	Retention of Records	
	I.	Twenty-four Hour Notice of Noncompliance Reporting.	16
	J.	Other Noncompliance Reporting	
	K.	Inspection and Entry	
III.		INSPECTION AND ENTRY IPLIANCE RESPONSIBILITIES	10
111.	A.	Duty to Comply	10
	В.	Penalties for Violations of Permit Conditions	
	C.	Need to Halt or Reduce Activity not a Defense	10
	D.	Duty to Mitigate	10
	E.	Proper Operation and Maintenance	
	F.		
	G.	Removed Substances	18
	Н.	Upost Conditions	18
	I.	Upset Conditions	
	1. J.	Toxic Pollutants	20
	у. К.	Changes in Discharge of Toxic Substances	20
IV.		Industrial Pretreatment	21
IV.		Planned Changes	
	A.	Planned Changes	22
	В. С.	Anticipated Noncompliance	
		Permit Actions	
	D.	Duty to Reapply	22
	E.	Duty to Provide Information	22
	F.	Other Information	
	G.	Signatory Requirements	22
	Н.	Penalties for Falsification of Reports	
	I.	Availability of Reports	
	J.	Oll and Hazardous Substance Liability	
	K.	Property Rights	
	L.	Severability	
	Μ.	Transfers	
	N.	State Laws	
	O.	Water Quality-Reopener Provision	
	Ρ.	Toxicity Limitation-Reopener Provision	
V.	GLO	SSARY OF TERMS	
	A.	Definitions.	25

I. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Criteria for Inclusion in the General Permit for Coal Mining

This General permit shall apply only to the discharge of treated wastewater from:

Coal mining operations either new or existing in Utah which include or will include in part, or in whole, alkaline mine water drainage, storm water runoff from coal preparation plant associated areas, active mining areas, and post mining areas until the performance bond is released. The total dissolved solids (TDS) are limited to a concentration of 500 mg/L at all discharge points, or one ton per day as a sum from all discharges.

B. Notice of Intent for a General Permit for Coal Mining

Any facility which desires coverage under this general permit for coal mining and meets the requirements of Part I.A. may be issued general permit coverage by submitting a notice of intent (NOI) to the Division of Water Quality.

The NOI shall include:

- 1. A completed Environmental Protection Agency Application (EPA Form 3510-1) or equivalent information. Only EPA form 3510-1 is required, no other EPA forms are required.
- 2. Location and identification number (such as 001, 002, etc.) of each existing discharge and/or proposed discharge point(s). This includes the latitude and longitude to the nearest 15 seconds and the name of the receiving water(s).
- 3. A description of the source of the wastewater for each discharge point.
- 4. A description of the treatment given or proposed for the wastewater at each discharge point and if necessary a justification of why no treatment is required.
- 5. Flow characteristics for each discharge point such as whether flow is or will be continuous or intermittent and indicate projected and/or actual average and maximum flows in gallons per day (gpd), or million gallons per day (MGD).
- 6. Data for each discharge point for the following parameters:
 - a. Biochemical demand (BOD₅).
 - b. Chemical oxygen demand (COD).
 - c. Total organic carbon (TOC).
 - d. Total suspended solids (TSS).
 - e. Flow.
 - f. Ammonia (as N).
 - g. Oil and grease.
 - h. Temperature.
 - i. pH.
 - j. Total dissolved solids (TDS).
 - k. Total iron and metals, cyanide, phenols located in *Table III of UAC R317-8-3.12*.
 - 1. For discharge(s) of mine water or mine water and mine water mixed with surface runoff, provide results of previous whole effluent toxicity (WET) testing, or complete at least one acute WET test using two species and a full dilution series (five dilutions plus a

control). Sediment pond discharges which have only surface runoff do not require WET tests.

- m. Date and time of sampling for each parameter.
- n. Date and time of analysis for each parameter.
- o. Utah certified laboratory which has completed the analysis for each parameter.

For each discharge point the presence or absence of any toxic and/or priority pollutants as listed in *Table II, UAC R317-8-3.13*. If no data is available, indicate why the data is not available. The Director may waive the reporting requirements for any of these pollutants and parameters if the applicant submits a request for such a waiver before or when the NOI is submitted, which demonstrates that information adequate to support issuance of the permit can be obtained through less stringent reporting requirements. Additional information or clarification of information submitted in the NOI may be requested by the Director at any time.

Any permittee holding a general UPDES permit may request to be excluded from coverage of the general permit by applying for an individual permit. If an individual permit is issued, the applicability of the general permit is automatically terminated on the effective date of the individual permit. In addition, the Director may require any permittee authorized by a general permit to apply for and obtain an individual UPDES permit. Cases where an individual permit may be required include those listed in *UAC R317-8-2.5(2)(c)1*.

C. <u>Description of Discharge Point(s)</u>.

The authorization to discharge provided under this permit is limited to those outfalls specifically designated below as discharge locations. Discharges at any location not authorized under a UPDES permit is a violation of the *Act* and may be subject to penalties under the *Act*. Knowingly discharging from an unauthorized location or failing to report an unauthorized discharge may be subject to criminal penalties as provided under the *Act*.

Outfall Number 001 (example) Location of Discharge Point(s)
(Put in a narrative description of the location of each outfall - plus the longitude and latitude of each outfall.)

D. Narrative Standard.

It shall be unlawful, and a violation of this permit, for the permittee to discharge or place any waste or other substance in such a way as will be or may become offensive such as unnatural deposits, floating debris, oil, scum or other nuisances such as color, odor or taste, or cause conditions which produce undesirable aquatic life or which produce objectionable tastes in edible aquatic organisms; or result in concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by bioassay or other tests performed in accordance with standard procedures.

E. <u>Specific Limitations and Self-Monitoring Requirements</u>

1. Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge from all Outfall(s). Such discharges shall be limited and monitored by the permittee as specified below:

TOOL SELECTION OF THE PARTY OF	1	Effluent I	Monitoring Requirements			
Effluent Characteristics	30 Day Average	7 Day Average	Daily Minimum	Daily Maximum	Sample Frequency	Sample Type
Flow, 'MGD	1.0	² NA	NA	Report	Monthly	Measured e/
TSS, mg/L	25	35	NA	70	Monthly	Grab f/
Total Iron, mg/L	NA	NA	NA	1.00	Monthly	Grab f/
Oil & Grease, mg/L a/	NA	NA	NA	10	Monthly	Visual
Total Dissolved Solids, mg/L	NA	NA	NA	Report	Monthly	Grab f/
Total Dissolved Solids, tons/day b/	NA	NA	NA	1.0	Monthly	Grab f/
pH, standard units	NA	NA	6.5	9.0	Monthly	Grab
Sanitary Waste c/	NA	NA	NA	None	Monthly	Visual
Oil and Grease, floating solids, visible foam, a/	NA	NA	NA	None	Monthly	Visual
MGD: million gallons per day NA: not applicable						

If the waters of the State into which the permittee is discharging are designated as non-attainment for any parameter, the permittee may be required to monitor for a specific parameter of concern as indicated in Part I.E.6 of the permit. Alternatively, as a result of this designation, the permittee may be required to obtain an individual permit based on $UAC\ R317-8-2.5(2(c)1.$

- a/ A visual inspection for oil and grease, floating solids, and visible foam shall be performed monthly. There shall be no sheen, floating solids, or visible foam in other than trace amounts. If sheen is observed, a sample of the effluent shall be collected immediately thereafter and oil and grease shall not exceed 10 mg/L in concentration.
- b/ The permittee cannot discharge more than one ton per day of TDS as a sum from all discharge points. If the permittee can achieve 500 mg/l concentration or less at each outfall there shall be no tonnage limit applicable. If the permittee cannot meet either of the TDS limits mentioned above in this paragraph, the permittee may be required to obtain an individual permit.
- c/ There shall be no discharge of sanitary waste and visual observations shall be performed at least monthly to verify that no such discharges occur.
- d/ See Definitions, Part V for definition of terms.
- e/ For intermittent discharge, the duration of the discharge shall also be reported.
- f/ These samples may also be a composite sample.
 - 2. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): in the final effluent before mixing with any receiving waters.
 - 3. For discharges composed of surface water or mine water commingled with surface water, 40 CFR Part 434.63 allows alternate effluent limits to be applied when discharges result from specific runoff events, detailed below.

For runoff events (rainfall or snowmelt) less than or equal to a 10-year 24-hour precipitation event, settleable solids shall be substituted for TSS and shall be limited to 0.5 milliliters per liter (ml/L). All other effluent limitations must be achieved concurrently, as described in the permit.

4. Any discharge or increase in the volume of a discharge caused by precipitation within any 24 hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) may comply with the following limitation instead of the otherwise applicable limitations:

Pollutant or pollutant property	Effluent limitations				
рН	6.5-9.0 at all times.				

- 5. The operator shall have the burden of proof that the discharge or increase in discharge was caused by the applicable precipitation event described in Parts I.E.3 and 4. The alternate limitations in Parts I.E.3 and 4 shall not apply to treatment systems that treat underground mine water only.
- 6. Additional monitoring shall be required for facilities that discharge into waters or watersheds on the Utah 303(d) list of impaired waters. These facilities shall be required to monitor for the pollutant(s) that cause the impairment for these waters. The Division of Water Quality will incorporate any additional sampling requirements for parameters of concern.

F. Storm Water Requirements.

It has been determined that the aforementioned permittee has a regulated storm water discharge as per UAC R317-8-3.9., therefore, the following permit conditions governing storm water discharges apply.

1. Coverage of This Section

- a. <u>Discharges Covered Under This Section</u>. The requirements listed under this section shall apply to storm water discharges from the industrial facility.
 - (1) Site Coverage. This section covers discharges of storm water associated with industrial activity to waters of the State from the confines of the facility listed on the cover page. Specific monitoring requirements have been included and are based on the requirements of the UPDES Multi Sector General Permit for Storm Water Discharges Associated with Industrial Activity, Permit No. UTR000000.

2. Prohibition of Non-Storm Water Discharges

The following non-storm water discharges may be authorized under this permit provided the non-storm water component of the discharge is in compliance with this section; discharges from fire fighting activities; fire hydrant flushing; potable water sources including waterline flushing; drinking fountain water; irrigation drainage and lawn watering; routine external building wash down water where detergents or other compounds have not been used in the process; pavement wash waters where spills or leaks of toxic or hazardous materials (including oils and fuels) have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; uncontaminated compressor condensate; uncontaminated springs; uncontaminated ground water; and foundation or footing drains where flows are not contaminated with process materials such as solvents.

3. Storm Water Pollution Prevention Plan Requirements

The plan shall include, at a minimum, the following:

- a. <u>Pollution Prevention Team</u>. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team who are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.
- b. <u>Description of Potential Pollutant Sources</u>. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials, which may be reasonably expected to have the potential as a significant pollutant source. Each plan shall include, at a minimum:
 - Orainage. A site map must be maintained indicating drainage areas and storm water outfalls. For each area of the facility that generates storm water discharges associated with the waste water treatment related activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow and an identification of the types of pollutants that are likely to be present in storm water discharges associated with the activity. Factors to consider include the toxicity of the pollutant; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified. The site map shall include but not be limited to:
 - (2) Drainage direction and discharge points from all wastewater associated discharges.
 - (3) Location of any erosion and sediment control structure or other control measures utilized for reducing pollutants in storm water runoff.
 - (4) Location of any handling, loading, unloading or storage of chemicals or potential pollutants such as caustics, hydraulic fluids, lubricants, solvents or other petroleum products, or hazardous wastes and where these may be exposed to precipitation.
 - (5) Locations where any major spills or leaks of toxic or hazardous materials have occurred
 - (6) Location of any sand or salt piles.
 - (7) Location of fueling stations or vehicle and equipment maintenance and cleaning areas that are exposed to precipitation.
 - (8) Location of receiving streams or other surface water bodies.

- (9) Locations of outfalls and the types of discharges contained in the drainage areas of the outfalls.
- c. <u>Inventory of Exposed Materials</u>. An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the effective date of this permit; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the effective date of this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.
- d. <u>Spills and Leaks</u>. A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the effective date of this permit. Such list shall be updated as appropriate during the term of the permit.
- e. <u>Sampling Data</u>. A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.
- f. Summary of Potential Pollutant Sources and Risk Assessment. A narrative description of the potential pollutant sources from the following activities associated with treatment works: access roads/rail lines; loading and unloading operations; outdoor storage activities; material handling sites; outdoor vehicle storage or maintenance sites; significant dust or particulate generating processes; and onsite waste disposal practices. Specific potential pollutants shall be identified where known.
- 4. <u>Measures and Controls</u>. The facility shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:
 - a. Good Housekeeping. All areas that may contribute pollutants to storm waters discharges shall be maintained in a clean, orderly manner. These are practices that would minimize the generation of pollutants at the source or before it would be necessary to employ sediment ponds or other control measures at the discharge outlets. Areas where good housekeeping practices should be implemented are storage areas for raw materials, waste materials and finished products; loading/unloading areas and waste disposal areas for hazardous and non-hazardous wastes. Examples of good housekeeping measures include; sweeping; labeling drums containing hazardous materials; and preventive monitoring practices or equivalent measures.
 - b. <u>Preventive Maintenance</u>. A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of

pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

- c. <u>Spill Prevention and Response Procedures</u>. Areas where potential spills that can contribute pollutants to storm water discharges can occur, and their accompanying drainage points, shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures and equipment for cleaning up spills shall be identified in the plan and made available to the appropriate personnel.
- d. <u>Inspections</u>. In addition to the comprehensive site evaluation required under *Part II.D.*, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility on a periodic basis. The following areas shall be included in all inspections: loading and unloading areas for all significant materials; storage areas, including associated containment areas; waste management units; and vents and stacks from industrial activities. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained. The use of a checklist developed by the facility is encouraged.
- e. <u>Employee Training</u>. Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify how often training will take place, but training should be held at least annually (once per calendar year). Employee training must, at a minimum, address the following areas when applicable to a facility: petroleum product management; process chemical management; spill prevention and control; fueling procedures; general good housekeeping practices; proper procedures for using fertilizers, herbicides and pesticides.
- f. Record Keeping and Internal Reporting Procedures. A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under *Part II.C.* Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

g. <u>Non-storm Water Discharges</u>.

- (1) <u>Certification</u>. The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with *Part V.G.* of this permit.
- (2) <u>Exceptions</u>. Except for flows from fire fighting activities, sources of non-storm water listed in *Part II.B. (Prohibition of Non-storm Water Discharges)* that are

combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

- (3) Failure to Certify. Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director within 180 days of the effective date of this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the State that are not authorized by a UPDES permit are unlawful, and must be terminated.
- h. <u>Sediment and Erosion Control</u>. The plan shall identify areas, which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.
- Management of Runoff. The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity (see Part II.C.2, Description of Potential Pollutant Sources) shall be considered when determining reasonable and appropriate measures. Appropriate measures or other equivalent measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, wet detention/retention devices and discharging storm water through the waste water facility for treatment.

5. Comprehensive Site Compliance Evaluation

Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Such evaluations shall provide:

- a. Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.
- b. Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with *Part II.C.2. (Description of Potential Pollutant*

Sources) and pollution prevention measures and controls identified in the plan in accordance with *Part II.C.3.* (Measures and Controls) shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

- c. A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with *Part II.C.3.i.* shall be made and retained as part of the storm water pollution prevention plan for at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with *Part IV.G (Signatory Requirements)* of this permit.
- d. <u>Deadlines for Plan Preparation and Compliance</u>. The facility shall prepare and implement a plan in compliance with the provisions of *Part II* of this permit within 270 days of the permit effective date.
- e. <u>Keeping Plans Current</u>. The facility shall amend the plan whenever there is a change in design, construction, operation, or maintenance, that has a significant effect on the potential for the discharge of pollutants to the waters of the state or if the storm water pollution prevention plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified by the plan, or in otherwise achieving the general objective of controlling pollutants in storm water discharges associated with the activities at the facility.

6. Monitoring and Reporting Requirements

- a. Quarterly Visual Examination of Storm Water Quality. The facility shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination must be made at least once in each of the following designated periods during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event: January through March; April through June; July through September; and October through December.
- b. <u>Sample and Data Collection</u>. Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well-lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.
- c. <u>Visual Storm Water Discharge Examination Reports</u>. Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e.,

runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

- d. Representative Discharge. If the permittee reasonably believes multiple outfalls discharge substantially identical effluents, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by an outfall, the permittee may collect a sample of effluent from one such outfall and report that the observation data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.
- e. <u>Adverse Conditions</u>. When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the results of the visual examination. Adverse weather conditions, which may prohibit the collection of samples, include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).
- f. <u>Inactive and Unstaffed Site</u>. When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

G. EPCRA Section 313 Requirements.

- 1. In areas where *Section 313* water priority chemicals are stored, processed or otherwise handled, appropriate containment, drainage control and/or diversionary structures shall be provided. At a minimum, one of the following preventive systems or its equivalent shall be used:
 - a. Curbing, culverting, gutters, sewers, or other forms of drainage control to prevent or minimize the potential for storm water run-on to come into contact with significant sources of pollutants; or
 - B. Roofs, covers or other forms of appropriate protection to prevent storage piles from exposure to storm water and wind.
- 2. No tank or container shall be used for the storage of a *Section 313* water priority chemical unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature, etc.
 - Liquid storage areas for Section 313 water priority chemicals shall be operated to minimize discharges of Section 313 chemicals. Appropriate measures to minimize discharges of Section

313 chemicals may include secondary containment provided for at least the entire contents of the largest single tank plus sufficient freeboard to allow for precipitation, a strong spill contingency and integrity testing plan, and/or other equivalent measures.

- 3. Material storage areas for Section 313 water priority chemicals other than liquids that are subject to runoff, leaching, or wind shall incorporate drainage or other control features that will minimize the discharge of Section 313 water priority chemicals by reducing storm water contact with Section 313 water priority chemicals.
- 4. Truck and rail car loading and unloading areas for liquid Section 313 water priority chemicals shall be operated to minimize discharges of Section 313 water priority chemicals. Protection such as overhangs or door skirts to enclose trailer ends at truck loading/unloading docks shall be provided as appropriate. Appropriate measures to minimize discharges of Section 313 chemicals may include: the placement and maintenance of drip pans (including the proper disposal of materials collected in the drip pans) where spillage may occur (such as hose connections, hose reels and filler nozzles) for use when making and breaking hose connections; a strong spill contingency and integrity testing plan; and/or other equivalent measures.
- Processing equipment and materials handling equipment shall be operated so as to minimize discharges of *Section 313* water priority chemicals. Materials used in piping and equipment shall be compatible with the substances handled. Drainage from process and materials handling areas shall minimize storm water contact with *Section 313* water priority chemicals. Additional protection such as covers or guards to prevent exposure to wind, spraying or releases from pressure relief vents from causing a discharge of *Section 313* water priority chemicals to the drainage system shall be provided as appropriate. Visual inspections or leak tests shall be provided for overhead piping conveying *Section 313* water priority chemicals without secondary containment.
- 6. Drainage from areas covered by *Parts II.F. 1, 2, 3*, or 4 should be restrained by valves or other positive means to prevent the discharge of a spill or other excessive leakage of *Section 313* water priority chemicals. Where containment units are employed, such units may be emptied by pumps or ejectors; however, these shall be manually activated.

Flapper-type drain valves shall not be used to drain containment areas. Valves used for the drainage of containment areas should, as far as is practical, be of manual, open-and-closed design. If facility drainage is not engineered as above, the final discharge of all in-facility storm sewers shall be equipped to be equivalent with a diversion system that could, in the event of an uncontrolled spill of *Section 313* water priority chemicals, return the spilled material to the facility.

Records shall be kept of the frequency and estimated volume (in gallons) of discharges from containment areas.

- 7. Other areas of the facility (those not addressed in *Parts II.F. 1, 2, 3*, or 4, from which runoff that may contain *Section 313* water priority chemicals or spills of *Section 313* water priority chemicals could cause a discharge shall incorporate the necessary drainage or other control features to prevent discharge of spilled or improperly disposed material and ensure the mitigation of pollutants in runoff or leachate.
- 8. All areas of the facility shall be inspected at specific intervals identified in the plan for leaks or conditions that could lead to discharges of *Section 313* water priority chemicals or direct contact of storm water with raw materials, intermediate materials, waste materials or products. In

particular, facility piping, pumps, storage tanks and bins, pressure vessels, process and material handling equipment, and material bulk storage areas shall be examined for any conditions or failures that could cause a discharge. Inspection shall include examination for leaks, wind blowing, corrosion, support or foundation failure, or other forms of deterioration or non-containment. Inspection intervals shall be specified in the plan and shall be based on design and operational experience. Different areas may require different inspection intervals. Where a leak or other condition is discovered that may result in significant releases of *Section 313* water priority chemicals to waters of the State, action to stop the leak or otherwise prevent the significant release of *Section 313* water priority chemicals to waters of the State shall be immediately taken or the unit or process shut down until such action can be taken. When a leak or non-containment of a *Section 313* water priority chemical has occurred, contaminated soil, debris, or other material must be promptly removed and disposed in accordance with Federal, State, and local requirements and as described in the plan.

- 9. Facilities shall have the necessary security systems to prevent accidental or intentional entry that could cause a discharge. Security systems described in the plan shall address fencing, lighting, vehicular traffic control, and securing of equipment and buildings.
- 10. Facility employees and contractor personnel that work in areas where Section 313 water priority chemicals are used or stored shall be trained in and informed of preventive measures at the facility. Employee training shall be conducted at intervals specified in the plan, but not less than once per year. Training shall address: pollution control laws and regulations, the storm water pollution prevention plan and the particular features of the facility and its operation that are designed to minimize discharges of Section 313 water priority chemicals. The plan shall designate a person who is accountable for spill prevention at the facility and who will set up the necessary spill emergency procedures and reporting requirements so that spills and emergency releases of Section 313 water priority chemicals can be isolated and contained before a discharge of a Section 313 water priority chemical can occur. Contractor or temporary personnel shall be informed of facility operation and design features in order to prevent discharges or spills from occurring.

II. MONITORING, RECORDING AND REPORTING REQUIREMENTS

A. Representative Sampling

Samples taken in compliance with the monitoring requirements established under *Part I* shall be collected from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge. Sludge samples shall be collected at a location representative of the quality of sludge immediately prior to the use-disposal practice.

B. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under *Utah Administrative Code* ("UAC") R317-2-10, unless other test procedures have been specified in this permit.

C. Penalties for Tampering

The *Act* provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

D. Reporting of Monitoring Results

Monitoring results obtained during the previous month shall be summarized for each month and reported monthly on a Discharge Monitoring Report Form (EPA No. 3320-1), post-marked no later than the 28th day of the month following the completed reporting period. If no discharge occurs during the reporting period, "no discharge" shall be reported. Legible copies of these, and all other reports including whole effluent toxicity (WET) test reports required herein, shall be signed and certified in accordance with the requirements of *Signatory Requirements* (see Part IV.G), and submitted to the Director, Division of Water Quality at the following address:

original to:

Department of Environmental Quality

Division of Water Quality 288 North 1460 West PO Box 144870

Salt Lake City, Utah 84114-4870

E. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.

F. Additional Monitoring by the Permittee

If the permittee monitors any parameter more frequently than required by this permit, using test procedures approved under *UAC R317-2-10* or as otherwise specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Such increased frequency shall also be indicated. Only those parameters required by the permit need to be reported.

G. Records Contents

Records of monitoring information shall include:

- 1. The date, exact place, and time of sampling or measurements:
- 2. The individual(s) who performed the sampling or measurements;
- 3. The date(s) and time(s) analyses were performed;

- 4. The individual(s) who performed the analyses;
- 5. The analytical techniques or methods used; and,
- 6. The results of such analyses.

H. Retention of Records

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time. A copy of this UPDES permit must be maintained on site during the duration of activity at the permitted location.

I. Twenty-four Hour Notice of Noncompliance Reporting.

- 1. The permittee shall (orally) report any noncompliance which may seriously endanger health or environment as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of circumstances. The report shall be made to the Division of Water Quality, (801) 538-6146, or 24 hour answering service (801) 536-4123.
- 2. The following occurrences of noncompliance shall be reported by telephone (801) 536-4123 as soon as possible but no later than 24 hours from the time the permittee becomes aware of the circumstances:
 - a. Any noncompliance which may endanger health or the environment:
 - b. Any unanticipated bypass which exceeds any effluent limitation in the permit (See *Part III.G, Bypass of Treatment Facilities.*);
 - c. Any upset which exceeds any effluent limitation in the permit (See *Part III.H*, *Upset Conditions.*); or,
 - d. Violation of a maximum daily discharge limitation for any of the pollutants listed in the permit.
- 3. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:
 - A description of the noncompliance and its cause;
 - b. The period of noncompliance, including exact dates and times;
 - c. The estimated time noncompliance is expected to continue if it has not been corrected; and,
 - d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
 - e. Steps taken, if any, to mitigate the adverse impacts on the environment and human health during the noncompliance period.

- 4. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Division of Water Quality, (801) 538-6146.
- 5. Reports shall be submitted to the addresses in *Part II.D*, *Reporting of Monitoring Results*.

J. Other Noncompliance Reporting

Instances of noncompliance not required to be reported within 24 hours shall be reported at the time that monitoring reports for *Part II.D* are submitted. The reports shall contain the information listed in *Part II.I.3*.

K. <u>Inspection and Entry</u>

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- 1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
- 2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and,
- 4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the *Act*, any substances or parameters at any location.

III. COMPLIANCE RESPONSIBILITIES

A. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

B. <u>Penalties for Violations of Permit Conditions</u>

The *Act* provides that any person who violates a permit condition implementing provisions of the *Act* is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions of the Act is subject to a fine not exceeding \$25,000 per day of violation; Any person convicted under *UCA 19-5-115(2)* a second time shall be punished by a fine not exceeding \$50,000 per day. Except as provided at *Part III.G*, *Bypass of Treatment Facilities* and *Part III.H*, *Upset Conditions*, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.

C. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

E. <u>Proper Operation and Maintenance</u>

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

F. Removed Substances

Collected screening, grit, solids, sludges, or other pollutants removed in the course of treatment shall be buried or disposed of in such a manner so as to prevent any pollutant from entering any waters of the state or creating a health hazard. Sludge/digester supernatant and filter backwash shall not directly enter either the final effluent or waters of the state by any other direct route.

G. Bypass of Treatment Facilities.

Bypass Not Exceeding Limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to parts 2. and 3. of this section.

2. Prohibition of Bypass.

a. Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

- (1) Bypass was unavoidable to prevent loss of human life, personal injury, or severe property damage;
- (2) There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance, and
- (3) The permittee submitted notices as required under section G.3.
- b. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed in sections G.2a. (1), (2) and (3).

3. Notice.

- a. Anticipated bypass. Except as provided above in section G.2. and below in section G. 3.b, if the permittee knows in advance of the need for a bypass, it shall submit prior notice, at least ninety days before the date of bypass. The prior notice shall include the following unless otherwise waived by the Director:
 - (1) Evaluation of alternative to bypass, including cost-benefit analysis containing an assessment of anticipated resource damages:
 - (2) A specific bypass plan describing the work to be performed including scheduled dates and times. The permittee must notify the Director in advance of any changes to the bypass schedule;
 - (3) Description of specific measures to be taken to minimize environmental and public health impacts;
 - (4) A notification plan sufficient to alert all downstream users, the public and others reasonably expected to be impacted by the bypass;
 - (5) A water quality assessment plan to include sufficient monitoring of the receiving water before, during and following the bypass to enable evaluation of public health risks and environmental impacts; and
 - (6) Any additional information requested by the Director.
- b. Emergency Bypass. Where ninety days advance notice is not possible, the permittee must notify the Director, and the Director of the Department of Natural Resources, as soon as it becomes aware of the need to bypass and provide to the Director the information in section G.3.a.(1) through (6) to the extent practicable.
- c. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass to the Director as required under Part II.I., Twenty Four Hour Reporting. The permittee shall also immediately notify the Director of the Department of Natural Resources, the

public and downstream users and shall implement measures to minimize impacts to public health and environment to the extent practicable.

H. <u>Upset Conditions</u>

- 1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of paragraph 2. of this section are met. Director's administrative determination regarding a claim of upset cannot be judiciously challenged by the permittee until such time as an action is initiated for noncompliance.
- 2. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - b. The permitted facility was at the time being properly operated;
 - c. The permittee submitted notice of the upset as required under Part II.I, Twenty-four Hour Notice of Noncompliance Reporting; and,
 - d. The permittee complied with any remedial measures required under Part III.D, Duty to Mitigate.
- 3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

I. Toxic Pollutants

The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of *The Water Quality Act of 1987* for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

J. <u>Changes in Discharge of Toxic Substances</u>

Notification shall be provided to the Director as soon as the permittee knows of, or has reason to believe:

- 1. That any <u>activity</u> has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - a. One hundred micrograms per liter (100 ug/L);
 - b. Two hundred micrograms per liter (200 ug/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/L) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - c. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with *UAC R317-8-3.4(7)* or (10); or,
 - d. The level established by the Director in accordance with *UAC R317-8-4.2(6)*.

- 2. That any activity has <u>occurred</u> or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - a. Five hundred micrograms per liter (500 ug/L);
 - b. One milligram per liter (1 mg/L) for antimony:
 - c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with *UAC R317-8-3.4(9)*; or,
 - d. The level established by the Director in accordance with *UAC R317-8-4.2(6)*.

K. Industrial Pretreatment

Any wastewaters discharged to the sanitary sewer, either as a direct discharge or as a hauled waste, are subject to Federal, State and local pretreatment regulations. Pursuant to Section 307 of *The Water Quality Act of 1987*, the permittee shall comply with all applicable federal General Pretreatment Regulations promulgated at 40 CFR 403, the State Pretreatment Requirements at UAC R317-8-8, and any specific local discharge limitations developed by the Publicly Owned Treatment Works (POTW) accepting the wastewaters.

In addition, in accordance with 40 CFR 403.12(p)(1), the permittee must notify the POTW, the EPA Regional Waste Management Director, and the State hazardous waste authorities, in writing, if they discharge any substance into a POTW which if otherwise disposed of would be considered a hazardous waste under 40 CFR 261. This notification must include the name of the hazardous waste, the EPA hazardous waste number, and the type of discharge (continuous or batch).

IV. GENERAL REQUIREMENTS

A. <u>Planned Changes</u>

The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are not subject to effluent limitations in the permit. In addition, if there are any planned substantial changes to the permittee's existing sludge facilities or their manner of operation or to current sludge management practices of storage and disposal, the permittee shall give notice to the Director of any planned changes at least 30 days prior to their implementation.

B. Anticipated Noncompliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

C. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. The application shall be submitted at least 180 days before the expiration date of this permit.

E. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

F. Other Information

When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Director, it shall promptly submit such facts or information.

G. Signatory Requirements

All applications, reports or information submitted to the Director shall be signed and certified.

- 1. All permit applications shall be signed by either a principal executive officer or ranking elected official
- 2. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described above and submitted to the Director, and,
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager,

superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

- 3. Changes to authorization. If an authorization under paragraph IV.G.2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph IV.G.2 must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.
- 4. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

H. Penalties for Falsification of Reports

The *Act* provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than \$10,000.00 per violation, or by imprisonment for not more than six months per violation, or by both.

I. Availability of Reports

Except for data determined to be confidential under *UAC R317-8-3.2*, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the office of Director. As required by the *Act*, permit applications, permits and effluent data shall not be considered confidential

J. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the permittee of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under the *Act*.

K. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

L. Severability

The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

M. Transfers

This permit may be automatically transferred to a new permittee if:

- 1. The current permittee notifies the Director at least 20 days in advance of the proposed transfer date;
- 2. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and,
- 3. The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 2 above.

N. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by *UCA 19-5-117*.

O. Water Quality-Reopener Provision

This permit may be reopened and modified (following proper administrative procedures) to include the appropriate effluent limitations and compliance schedule, if necessary, if one or more of the following events occurs:

- 1. Water Quality Standards for the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit.
- 2. A final wasteload allocation is developed and approved by the State and/or EPA for incorporation in this permit.
- 3. A revision to the current Water Quality Management Plan is approved and adopted which calls for different effluent limitations than contained in this permit.

P. Toxicity Limitation-Reopener Provision

This permit may be reopened and modified (following proper administrative procedures) to include whole effluent toxicity (WET) testing, a WET limitation, a compliance schedule, a compliance date, additional or modified numerical limitations, or any other conditions related to the control of toxicants if toxicity is detected during the life of this permit.

V. GLOSSARY OF TERMS

A. Definitions.

- 1. The "30-day (and monthly) average" is the arithmetic average of all samples collected during a consecutive 30-day period or calendar month, whichever is applicable. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.
- 2. The "7-day (and weekly) average" is the arithmetic average of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. The 7-day and weekly averages are applicable only to those effluent characteristics for which there are 7-day average effluent limitations. The calendar week which begins on Sunday and ends on Saturday, shall be used for purposes of reporting self- monitoring data on discharge monitoring report forms. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for that calendar week shall be included in the data for the month that contains the Saturday.
- 3. "Daily Maximum" ("Daily Max.") is the maximum value allowable in any single sample or instantaneous measurement.
- 4. "Composite samples" shall be flow proportioned. The composite sample shall, as a minimum, contain at least four (4) samples collected over the composite sample period. Unless otherwise specified, the time between the collection of the first sample and the last sample shall not be less than six (6) hours nor more than 24 hours. Acceptable methods for preparation of composite samples are as follows:
 - a. Constant time interval between samples, sample volume proportional to flow rate at time of sampling;
 - b. Constant time interval between samples, sample volume proportional to total flow (volume) since last sample. For the first sample, the flow rate at the time the sample was collected may be used;
 - c. Constant sample volume, time interval between samples proportional to flow (i.e., sample taken every "X" gallons of flow); and,
 - d. Continuous collection of sample, with sample collection rate proportional to flow rate.
- 5. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.
- 6. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.
- 7. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

- 8. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
- 9. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
- 10. "Director" means Director of the Utah Division of Water Quality.
- 11. "EPA" means the United States Environmental Protection Agency.
- 12. "Act" means the "*Utah Water Quality Act*".
- "Best Management Practices" ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
- 14. "Coal pile runoff" means the rainfall runoff from or through any coal storage pile.
- 15. "CWA" means The Federal Water Pollution Control Act, as amended, by The Clean Water Act of 1987.
- "Point Source" means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharges. This term does not include return flows from irrigated agriculture or agriculture storm water runoff.
- 17. "Significant spills" includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under *Section 311* of the *Clean Water Act* (see 40CFR 110.10 and 40 CFR 117.21) or *Section 102* of the *CERCLA* (see 40 CFR 302.4).
- 18. "Storm water" means storm water runoff, snow melt runoff, and surface runoff and drainage.
- 19. "Waste pile" means any noncontainerized accumulation of solid, nonflowing waste that is used for treatment or storage.
- 20. "10-year, 24-hour precipitation event" means the maximum 24-hour precipitation event with a probable reoccurrence interval of once in 10 years. This information is available in *Weather Bureau Technical Paper no. 40*, May 1961 and *NOAA Atlas 2*, 1973 for the 11 Western States, and may be obtained from the National Climatic center of the Environmental Data Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.
- The term "coal preparation plant" means a facility where coal is crushed, screened, sized and cleaned, dried, or otherwise prepared and loaded for transit to a consuming facility.

- 22. The term "coal preparation plant associated areas" means the coal preparation plant yards, immediate access roads, coal refuse piles, and coal storage piles and facilities
- 23. "Section 313 water priority chemicals" means a chemical or chemical categories that:
 - a. Are listed a 40 CFR 372.65 pursuant to Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) (also known as Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986);
 - b. Are present at or above threshold levels at a facility subject to EPCRA Section 313 reporting requirements; and
 - c. Meet at least one of the following criteria:
 - (1) Are listed in *Appendix D* of 40 CFR Part 122 on either Table II (organic priority pollutants), Table III (certain metals, cyanides and phenols) or Table V (certain toxic pollutants and hazardous substances);
 - (2) Are listed as a hazardous substances pursuant to Section 311(b)2(A) of the CWA at 40 CFR116.4; or
 - (3) Are pollutants for which EPA has published acute or chronic water quality criteria.

DWQ-2013-002268

	*					
			,			
	š					
,,	345 =					
v			¥		25.5	



Fact Sheet Statement of Basis General Coal Permit UTG040000 Page 1 of 7

FACT SHEET STATEMENT OF BASIS UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES) GENERAL PERMIT FOR COAL MINING OPERATIONS MINOR INDUSTRIAL FACILITIES RENEWAL UPDES PERMIT No. UTG040000

The State of Utah in compliance with the *Utah Water Quality Act, Title 19-5 Utah Code Annotated ("UCA") 1953, as amended, the "Act"*, will issue a general permit for coal mining operations in Utah.

APPROPRIATENESS OF THE GENERAL PERMIT

Utah Administrative Code (UAC) Section R317-8-2.5 authorizes the issuance of general permits to categories of point sources within the same geographical area, which involve similar types of operations, discharge the same types of wastes, and require similar effluent limitations and pollution control measures. There are currently twelve coal mining facilities that have applied for coverage under this general permit renewal. All of these twelve facilities are located in Carbon and Emery Counties.

DESCRIPTION OF DISCHARGES

This general permit shall apply only to discharges of mine water, ground water, treated wastewater, and/or storm water from coal mining operations located in Utah. Coal mining operations, either new or existing in Utah, which include or will include in part or in whole, alkaline mine water drainage, storm water runoff from coal preparation plant and associated areas, active mining areas, and post mining areas. The discharge of coal preparation plant process water is prohibited under this general permit. The discharge data for each of the twelve facilities has been evaluated. Many of these twelve facilities either do not discharge on a regular basis (if at all), or are generally able to meet the discharge requirements. Based on Utah Administrative Code UAC 19-5-108 a permit cannot be issued unless the applicant/permittee can meet all applicable requirements of this Chapter, including the conditions of any permit granted by the Board.

NOTICE OF INTENT FOR COVERAGE UNDER THE COAL MINING GENERAL PERMIT

Any facility, including those which presently have an individual UPDES permit, which desires coverage under the general permit for coal mining and meets the descriptions above, may be issued coverage by submitting a Notice of Intent (NOI). The Environmental Protection Agency Application (EPA form 3510-1) and the other NOI requirements can be obtained from:

Division of Water Quality 195 North 1950 West P.O. Box 144870 Salt Lake City, Utah 84114-4870 (801) 536-4300 www.waterquality.utah.gov

The following outline for submitting a NOI is taken from Part I.B. of the general permit:

Any facility which desires coverage under this general permit for coal mining and meets the requirements of Part I.A. may be issued general permit coverage by submitting a Notice of Intent (NOI) to Division of Water Quality.

YEAS BUT

Fact Sheet Statement of Basis General Coal Permit UTG040000 Page 2 of 7

This can be a guide for renewal of the permit in the future, by completing the form and sending to the address above. The NOI shall include:

- A completed Environmental Protection Agency Application (EPA Form 3510-1) or equivalent information. Only EPA form 3510-1 is required, no other EPA forms are required.
- 2. Location and identification number (such as 001, 002, etc.) of each existing discharge and/or proposed discharge point(s). This includes the latitude and longitude and the name of the receiving water(s).
- 3. A description of the source of the wastewater for each discharge point.
- 4. A description of the treatment given or proposed for the wastewater at each discharge point and if necessary a justification of why no treatment is required.
- 5. Flow characteristics for each discharge point such as whether flow is or will be continuous or intermittent and indicate projected and/or actual average and maximum flows in gallons per day (GPD), or million gallons per day (MGD).
- 6. Data for each discharge point for the following parameters:
 - a. Biochemical demand (BOD₅).
 - b. Chemical oxygen demand (COD).
 - c. Total organic carbon (TOC).
 - d. Total suspended solids (TSS).
 - e. Flow.
 - f. Ammonia (as N).
 - g. Oil and grease.
 - h. Temperature.
 - i. pH
 - j. Total dissolved solids (TDS).
 - k. Total iron and metals, cyanide, phenols located in

Table III of UAC R317-8-3.13.

- 1. For discharge(s) of mine water or mine water and mine water mixed with surface runoff, provide results of previous whole effluent toxicity (WET)testing or complete at least one WET test using two species and a full dilution series (five dilutions plus a control). Sediment pond discharges which have only surface runoff do not require WET tests.
- m. Date and time of sampling for each parameter.
- n. Date and time of analysis for each parameter.
- o. Utah certified laboratory which has completed the analysis for each parameter.

For each discharge point the presence or absence of any toxic and/or priority pollutants as listed in *Table II, UAC R317-8-3.13*. If no data is available, indicate why the data is not available. The Executive Secretary may waive the reporting requirements for any of these pollutants and parameters if the applicant submits a request for such a waiver before or when the NOI is submitted, which demonstrates that information adequate to support issuance of the permit can be obtained through less stringent reporting requirements. Additional information or clarification of

information submitted in the NOI may be requested by the Director at any time.

Any permittee holding a general UPDES permit may request to be excluded from coverage of the general permit by applying for an individual permit. If an individual permit is issued, the applicability of the general permit is automatically terminated on the effective date of the individual permit. In addition, the Executive Secretary may require any permittee authorized by a general permit to apply for and obtain an individual UPDES permit. Cases where an individual permit may be required include those listed in *UAC R317-8-2.5(2)(c)1*.

BASIS FOR EFFLUENT LIMITATIONS

In accordance with regulations promulgated in 40 Code of Federal Regulations (CFR) Part 122.44 and in UAC R317-8-4.2, effluent limitations are derived from technology-based effluent limitations guidelines, Utah Secondary Treatment Standards (UAC R317-1-3.2) or Utah Water Quality Standards (UAC R317-2). A waste load analysis was completed and is included as Appendix I of this FSSOB. In cases where multiple limits have been developed, those that are more stringent apply. In some cases (such as for TSS) multiple limits have been used. In cases where no limits are applicable, Best Professional Judgment (BPJ) may be used. "Best Professional Judgment" refers to a discretionary, best professional decision made by the permit writer based upon precedent, prevailing regulatory standards or other relevant information.

The total suspended solids (TSS) limitations were determined using State of Utah secondary treatment standards as contained in *UAC R317-1-3.2 B*. These standards require that the arithmetic mean shall not exceed 25 mg/L during any 30-day period or 35 mg/L during any 7-day period. The daily maximum value of 70 mg/L was taken from 40 *CFR 434 Subpart D*, which is entitled *Alkaline Mine Drainage*.

The pH is limited to a minimum of 6.5 and a maximum of 9.0 standard units by State secondary treatment standards as contained in *UAC R317-1-3.2D*.

There shall be no visible sheen or oil and grease present. If sheen is visually observed or there is another reason to believe oil or grease is present in the discharge, then a sample for oil and grease is required to be taken. This sample shall be less than or equal to 10 mg/L. This requirement for oil and grease is based upon Best Professional Judgment.

The iron limitation is based upon the State Water Quality Standard of 1.0 mg/L for dissolved iron (*UAC R317-2 Table 2.14.2*) and will be included in the permit as 1.0 mg/L as total iron, and shall apply to each of the discharge points. Data from Utah coal mine discharges indicate that the permitted facilities should be able to continue complying with this limitation because either they usually do not discharge on a regular basis, or the discharge has typically been less than 1.0 mg/L.

If a facility discharges into the Colorado River Basin, TDS mass loading is limited according to policies established by the Colorado River Basin Salinity Control Forum (Forum), as authorized in *UAC R317-2-4* to further control salinity in the Utah portion of the Colorado River Basin. On February 28, 1977 the Forum produced the "Policy for Implementation of Colorado River Salinity Standards through the NPDES Permit Program" (Policy), with the most current subsequent triennial revision dated October 2011. Based on Forum Policy, provisions can be made to remove TDS by treatment, salinity off-set projects, or whatever mechanism(s) the permittee can develop to account for any TDS loading in excess of the permit requirement. These provisions are usually incorporated in individual permits. The TDS loading required by the salinity forum is one ton per day as a sum from all discharge points, unless the concentration of TDS is 500 mg/L or less. If the concentration of TDS is less than 500 mg/L no loading limit applies. Therefore, a loading limit of one ton per day from all discharge points will be included in the permit unless the permitee can demonstrate that the concentration at all discharge points does not exceed 500 mg/L. If one ton per day cannot be achieved

and the permittee cannot meet 500 mg/L or less at all of its discharge points, then the permittee will be required to pursue an individual permit.

Based on *UAC R317-2-14, Table 2.14.1*the concentration of TDS in water used for agricultural purposes shall not exceed 1200 mg/L, unless there is a designated site specific standard for TDS which has been incorporated into the State Water Quality Standards. A reasonable potential analysis for TDS concentration was completed for all of the mines presently covered under the general coal permit. A majority of coal mines covered under the general permit has not discharged over the last five years and it is anticipated will not discharge over the next five year permit period. Of those facilities that discharged (3 out of 13) only one (Alton Coal) will be required to obtain an individual permit instead of being covered under this general coal permit renewal.

USEPA made an impairment determination for total dissolved solids for Kanab Creek-2 Assessment Unit which includes Lower Robinson Creek and Sink Valley which are the two receiving waters for discharge from Alton Coal. Any discharge from Alton Coal in exceedance of 1200 mg/L may cause or contribute to the violation of a TDS water quality standard, which is the reason Alton Coal is being required to obtain an individual permit. All of the permitted coal mines have to monitor for TDS concentration to determine loading for TDS. All mines covered under this permit will be required to report TDS concentration on their DMR report. As with the previous permit, no specific concentration for TDS will be included as a limit in this renewal permit.

For discharges composed of surface water or mine water commingled with surface water, 40 CFR Part 434.63 allows alternate effluent limits to be applied when discharges result from specific runoff events, detailed below and in the permit. The permittee has the burden of proof that the described runoff events occurred.

- i. For runoff events (rainfall or snowmelt) less than or equal to a 10-year 24-hour precipitation event, settleable solids shall be substituted for TSS and shall be limited to 0.5 milliliters per liter (ml/L). All other effluent limitations must be achieved concurrently, as described in the permit.
- ii. Any discharge or increase in the volume of a discharge caused by precipitation within any 24 hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) may comply with the following limitation instead of the otherwise applicable limitations:

Pollutant or pollutant property	Effluent limitations				
pН	6.5-9.0 at all times.				

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The effluent limitations and monitoring requirements shall be completed as outlined below. Effluent self-monitoring requirements are based on BPJ. Reports shall be made via NetDMR or on Discharge Monitoring Report (DMR) forms and are due 28 days after the end of the monthly monitoring period.

Effluent	pozdála serv	Effluent L	Monitoring Requirements			
Characteristics	30 Day Average	7 Day Average	Daily Minimum	Daily Maximum	Sample Frequency	Sample Type
Flow, ^I MGD e/	1.0	² NA	NA	Report	Monthly	Measured
TSS, mg/L	25	35	NA	70	Monthly	Grab f/
Total Iron, mg/L	NA	NA	NA	1.00	Monthly	Grab f/
Oil & Grease, mg/L a/	NA	NA	NA	10	Monthly	Visual
Total Dissolved Solids, mg/L	NA	NA	NA	Report	Monthly	Grab f/
Total Dissolved Solids, tons/day b/	NA	NA	NA	1.0	Monthly	Grab f/
pH, standard units	NA	NA	6.5	9.0	Monthly	Grab
Sanitary Waste c/	NA	NA	NA	None	Monthly	Visual
Oil and Grease, floating solids, visible foam, a/	NA	NA	NA	None	Monthly	Visual
¹ MGD: million gallons per day	² NA: not	applicable				

If the waters of the State into which the permittee is discharging are designated as non-attainment for any parameter, the permittee may be required to monitor for a specific parameter of concern as indicated in Part I.E.6 of the permit. Alternatively, as a result of this designation, the permittee may be required to obtain an individual permit based on $UAC\ R317-8-2.5(2)(c)1$.

- A visual inspection for oil and grease, floating solids, and visible foam shall be performed monthly. There shall be no sheen, floating solids, or visible foam in other than trace amounts. If sheen is observed, a grab sample of the effluent shall be collected immediately thereafter and oil and grease shall not exceed 10 mg/L in concentration.
- b/ The permittee cannot discharge more than one ton per day of TDS as a sum from all discharge points. If the permittee can achieve a 500 mg/l thirty day average or less at each outfall there shall be no tonnage limit applicable. If the permittee cannot meet either of the TDS limits mentioned above in this paragraph, the permittee may be required to obtain an individual permit.
- c/ There shall be no discharge of sanitary waste and visual observations shall be performed at least monthly to verify the no such discharges occur.
- d/ See Definitions, *Part V of the permit* for definition of terms.
- e/ For intermittent discharge, the duration of the discharge shall also be reported
- f/ These samples may also be a composite sample.

WASTE LOAD ANALYSIS AND ANTIDEGRADATION REVIEW

Effluent limitations are also derived using a waste load analysis (WLA), which is appended to this statement of basis as ADDENDUM. The WLA incorporates Secondary Treatment Standards, Water Quality Standards, Antidegradation Reviews (ADR), as appropriate and designated uses into a water quality model that projects the effects of discharge concentrations on receiving water quality. Effluent limitations are those that the model demonstrates are sufficient to meet State water quality standards in the receiving waters. During this UPDES permit development, a WLA and ADR I were performed. Effluent limits contained in the WLA were incorporated into the permit. This included a reasonable potential analysis based on the best professional judgment of the permit writer. An ADR Level I review was performed and concluded that an ADR Level II review was not required. The

potential discharges were evaluated and determined not to cause a violation of State Water Quality Standards in downstream receiving waters.

STORM WATER REQUIREMENTS

The storm water requirements are based on the UPDES Multi-Sector General Permit (MSGP) for Storm Water Discharges for Industrial Activity, General Permit No. UTR000000. All sections of the MSGP that pertain to discharges from wastewater treatment plants have been included and sections which are redundant or do not pertain have been deleted.

The permit requires the preparation and implementation of a storm water pollution prevention plan for all areas within the confines of the plant. Required elements of this plan are:

- 1) Development of a pollution prevention team,
- 2) Development of drainage maps and material stockpiles,
- 3) An inventory of exposed material,
- 4) Spill reporting and response procedures,
- 5) A preventative maintenance program,
- 6) Employee training,
- 7) Certification that storm water discharges are not mixed with non-storm water discharges,
- 8) Compliance site evaluations and potential pollutant source identification, and
- 9) Visual examinations of storm water discharges.

This plan is required to be maintained on-site to reflect current site conditions and made available for review upon request and/or inspections.

PRETREATMENT REQUIREMENTS

Those facilities covered under the general permit do not discharge process wastewater to a sanitary sewer system. Any process wastewater that these facilities may discharge to the sanitary sewer, either as a direct discharge or as a hauled waste, is subject to federal, state, and local pretreatment regulations. Pursuant to section 307 of the Clean Water Act, the permittee shall comply with all applicable federal general pretreatment regulations promulgated, found in 40 CFR 403, the state's pretreatment requirements found in UAC R317-8-8, and any specific local discharge limitations developed by the Publicly Owned Treatment Works (POTW) accepting the waste.

BIOMONITORING REQUIREMENTS

As part of a nationwide effort to control toxics, biomonitoring requirements are being included in all major permits and in minor permits for facilities where effluent toxicity is an existing or potential concern. Authorization for requiring effluent biomonitoring is provided for in *UAC R317-8-4.2* and *R317-8-5.3*. The Whole Effluent Toxicity (WET) Control Guidance Document, February 15, 1991, outlines guidance to be used by Utah Division of Water Quality staff and by permittees for implementation of WET control through the UPDES discharge permit program.

The coal mining operations covered under this general permit are categorized as minor industrial facilities, from which the discharges of mine water and storm water runoff is neither considered to be, nor likely to be toxic. Therefore, biomonitoring of the effluent will not be required. A toxicity reopener provision will be included in the permit so that WET testing and WET limitation requirements can be incorporated at any time if determined to be appropriate in the future.

Fact Sheet Statement of Basis General Coal Permit UTG040000 Page 7 of 7

SIGNIFICANT CHANGES FROM PREVIOUS PERMIT

A flow limit of 1.0 MGD was added for when discharges do occur. This flow limit is the largest average flow expected at any of the coal mines applying for coverage under the General Permit for Coal Mining.

PERMIT DURATION

As stated in UAC R317-8-5.1(1), UPDES permit shall be effective for a fixed term not to exceed five years.

Drafted by Mike Herkimer, Environmental Scientist Utah Division of Water Quality March 14, 2013

The Fact Sheet and Statement of Basis, wasteload allocation and proposed permit were public noticed in the Emery County Progress and the Sun Advocate, and under "Public Participation" on the Division of Water Quality Web Site, www.waterquality.utah.gov/ from March 26, 2013 through April 26, 2013. No comments were received.

Permit Writer: Mcko

Date: 8/7/13

F:\wp\General Coal Permit Renewal 2013\Final 2013 General Coal Permit\Final FSSOB for Gen Coal Permit 2013.docx